

CLAIMS

1. (Previously Presented): A method, comprising:

displaying a currently displayed television program on a display;

activating a navigation system during display of the currently displayed television program, wherein the navigation system determines and displays a set of viewer-selectable attributes for the currently displayed television program overlaid on the currently displayed television program, the set of attributes comprising attributes which are each descriptive of a different aspect of the currently displayed television program, wherein each attribute of the set of viewer-selectable attributes corresponds to a combinable navigation context to generate a navigable sequence of television programs;

selecting at least two attributes from the set of viewer-selectable attributes using one or more of three navigation keys comprising a previous key, a next key and a select key;

logically combining the navigation contexts which correspond to the selected at least two attributes using Boolean operators;

querying a database of television programming metadata for television program identifiers associated with the combined navigation contexts;

generating a sequence of television programs associated with the identifiers for navigation wherein the sequence comprises a corresponding navigational axis, the sequence of television programs including the current television program and at least

one other television program that shares one or more of the selected attributes with the currently displayed television program; and

navigating the sequence of television programs, wherein the navigating comprises using the next key or previous key to change from displaying the currently displayed television program in the sequence to displaying another television program in the sequence, wherein the next key or previous key is used to cycle through the sequence of television programs without having to access a menu listing the television programs in the sequence for navigating to display of a next television program in the sequence.

2. (Original): The method as recited in claim 1, wherein the querying is performed by one or more predefined queries and each predefined query is associated with a combinable navigation context.

3. (Previously Presented): The method as recited in claim 1, wherein the set of attributes includes an actor attribute and a director attribute, and wherein logically combining the navigation contexts which correspond to the selected attributes comprises logically combining navigation contexts which correspond to the actor attribute and the director attribute to generate a single actor-director navigational axis.

4. (Original): The method as recited in claim 2, wherein links for launching the one or more predefined queries are associated with television program content.

5. (Original): The method as recited in claim 4, wherein the television program content is included in a conventional broadcast television show.
6. (Original): The method as recited in claim 4, wherein the television program content is included in one of an on-demand television show or an on-demand television movie.
7. (Original): The method as recited in claim 4, wherein the television program content is included in television musical programming.
8. (Original): The method as recited in claim 4, wherein a link is selectable while the television program content is playing.
9. (Original): The method as recited in claim 2, wherein links for launching the one or more predefined queries are associated with television program metadata.
10. (Original): The method as recited in claim 9, wherein a link is selectable while the television program metadata is displayed.
11. (Canceled)
12. (Previously Presented): The method as recited in claim 1, wherein the select key of the navigation controls selects one or more of the combinable navigation contexts.

13. (Original): The method as recited in claim 12, further comprising using at least one of the combinable navigation contexts as a logical filter.

14. (Canceled)

15. (Previously Presented): The method as recited in claim 1, wherein the Boolean operators are applied automatically based on an association between a link for launching a predefined query corresponding to a navigation context and the television program content associated with the link.

16. (Previously Presented): The method as recited in claim 1, wherein the Boolean operators are applied automatically based on an association between a link for launching a predefined query corresponding to a navigation context and the television program metadata associated with the link.

17. (Canceled)

18. (Currently Amended): A method, comprising:

displaying content of a currently displayed first television program on a display;
activating a navigation system during display of the content of the currently displayed first television program, wherein the navigation system automatically determines and displays a first-set of viewer-selectable attributes that are descriptive of different aspects of the currently displayed first television program, wherein the

navigation system overlays the first-set of viewer-selectable attributes on the display of the content of the currently displayed first television program;

~~receiving a selection of selecting one or more first-attribute values from the displayed first-set of viewer-selectable attributes to define a first-query for television programming metadata, wherein the navigation system uses the selected one or more first-attribute values corresponding to the currently displayed first television program in the first-query to produce a first-list of identify a plurality of television program identifiers corresponding to a plurality of television programs identified by the navigation system as corresponding to the selected one or more first-attribute values;~~

~~arranging the television programming metadata into a first data structure wherein first attribute values are associated with program identifiers;~~

providing a user interface, wherein a navigation control is used to launch the query by selecting the one or more attribute values from the displayed first-set of viewer-selectable attributes corresponding to the currently displayed first television program for producing the first list of television program identifiers;

~~using receiving input from the navigation control to cycle through sequentially display content of the plurality of television programs as a navigational axis corresponding to the one or more attribute values, at least a portion of the first list to access content of a second television program for displaying the content of the second television program in place of the currently displayed first television program, the second television program accessed corresponding to the first list, wherein the navigation control includes navigating the navigational axis by a single key used to cycle~~

through displaying the content of the ~~of plurality of~~ television programs identified in the first list without having to access a menu listing the plurality of television programs[;:]

~~displaying the content of the second television program in response to the navigation control accessing the different television program; and~~

~~during display of the content of the second television program, activating the navigation system, wherein the navigation system automatically determines and displays a second set of viewer-selectable attributes that are descriptive of the second television program, wherein the navigation system overlays the second set of viewer-selectable attributes on the display of the content of the different television program, wherein one or more second attributes are selected to create a second list of television program identifiers corresponding to the selected one or more attributes.~~

19. (Currently Amended): The method as recited in claim 18, wherein the navigation control comprises a next key, a previous key and a select key, wherein the next key or previous key is used to cycle through the content of the plurality of television programs ~~corresponding to the second list identified~~ without having to access a menu listing the plurality of television programs ~~in the second list for navigating to the~~ content of a next television program of the plurality of television programs in the second list.

20. - 23. (Canceled)

24. (Previously Presented): The method as recited in claim 18, further comprising displaying program information for each television program in response to the navigation control accessing the television program.

25. (Currently Amended): The method as recited in claim 18, further comprising:

pausing a particular television program at a pause point in response to the navigation control accessing another particular television program ~~on the first list~~ of the plurality of television programs; and

resuming the particular television program at the pause point in response to the navigation control accessing the particular television program again.

26. (Canceled)

27. (Currently Amended): The method as recited in claim 18, further comprising selecting multiple ~~first~~-attribute values, wherein the multiple ~~first~~-attribute values are combined in the query using Boolean logic operators, wherein the Boolean logic operators are applied automatically.

28. (Previously Presented): The method as recited in claim 27, wherein the Boolean operators are designated by a context of the currently displayed first television program.

29. (Currently Amended): A multi-axis television navigation system, comprising:

a server for storing and accessing digital television programming content;

a navigation control for navigating any one of multiple navigational axes to change from displaying a currently displayed television program to displaying a television program provided by the server, and for selecting links to launch predefined queries, wherein each predefined query queries a database based on television program attributes selected by a viewer and returns a navigation axis comprising a list of program identifiers of television programs corresponding to a value for the television program attributes selected;

a means for storing television program metadata in a database;

a means for arranging the program metadata in a relational schema;

a means for defining and storing the pre-defined queries;

a means for embedding links to the pre-defined queries in logically associated metadata for a currently displayed television program; and

a means for logically combining multiple predefined queries using Boolean operators,

wherein the navigation system is configured to be activated during the display of the currently displayed television program, wherein the navigation system automatically determines and displays a set of viewer-selectable attributes that are descriptive of different aspects of the currently displayed television program, wherein the navigation system overlays the set of viewer-selectable attributes on the currently displayed television program;

wherein the navigation system uses one or more selected attribute values selected from the set of viewer-selectable attributes corresponding to the currently displayed television program to define one of the predefined queries to produce the list of television program identifiers as a navigational axis;

wherein the navigation controls provide for navigation from display of the currently displayed television program to display of a plurality of different television programs corresponding to the television program identifiers in the list by activation of a single key for cycling through display of the television programs along the navigational axis identified by the list.

30. (Canceled):

31. (Previously Presented): The multi-axis television navigation system as recited in claim 29, wherein the navigation control comprises a next key, a previous key and a select key, wherein the next key or previous key is used to cycle through the television programs corresponding to the list without having to access a menu listing the television programs in the list for navigating to a next television program in the list.

32. (Original): The multi-axis television navigation system as recited in claim 29, wherein the relational schema adheres at least in part to a global listings format.

33. (Previously Presented): A television navigation engine, executing on a computing device, the engine comprising:

a database for television program metadata;

a query engine to find program identifiers in the database corresponding to predefined queries, wherein a predefined query returns a navigational axis from the database, wherein a navigational axis is a list of program identifiers of television programs;

a user interface to associate launch of one or more of the predefined queries with selection of attributes descriptive of a currently displayed television program, and to receive the attributes which are selected by a viewer, wherein activation of the user interface during display of a currently displayed television program results in the user interface presenting a set of viewer-selectable attributes that are descriptive of different aspects of the currently displayed television program, wherein the user interface overlays the set of viewer-selectable attributes on the currently displayed television program for a viewer to select one or more attribute values from the displayed set of viewer-selectable attributes to define a query;

an axis cache to store the list of program identifiers returned by one or more predefined queries; and

a navigation controller associated with the user interface to select the attribute values from the displayed set of attribute values corresponding to the currently displayed television program for launching the one or more predefined queries, to navigate the navigational axis that is the list of program identifiers of television programs determined to correspond to the one or more predefined queries, and to display television programs corresponding to the program identifiers on the list, wherein the

navigation controller comprises a single key activated to display multiple programs successively with corresponding successive single activations of the single key.

34. (Canceled)

35. (Previously Presented): The television navigation engine as recited in claim 33, wherein the navigation controller is on a remote controller and comprises a next key, a previous key and a select key, wherein the next key or previous key is used to cycle through the television programs corresponding to the list without having to access a menu listing the television programs in the list for navigating to display of a next television program in the list.

36. (Currently Amended): A multi-axis television program system that comprises;

a processor coupled to computer readable storage media;

a multi-axis database schema implemented by ~~a~~the processor executing instructions stored in the computer readable storage media, the schema comprising:

instructions for arranging a database of television programming metadata into indices facilitating predefined queries;

wherein one or more links contextually associated with one or more attributes of a currently displayed television program call the predefined queries, wherein the one or more attributes are selected by a viewer from among a set of attributes and logically combined using Boolean operators, and wherein each attribute of the set corresponds to a combinable navigation

context which can be used for generating a navigable sequence of television programs along a navigational axis, wherein the set of attributes corresponding to the currently displayed television program are automatically determined by the processor and displayed as viewer-selectable attributes when a user interface is activated during display of the currently displayed television program;

wherein the predefined queries return a list of identifiers from the database corresponding with one or more of the attributes,

wherein each list forms a navigational axis,

wherein each identifier in a list corresponds to either an on-demand or currently broadcast television program,

wherein the television programs on the list are displayed as accessed by a television channel navigation ~~means~~ control for navigating one or more navigational axes, wherein the television channel navigation ~~means~~ control comprises a next key, a previous key and a select key, wherein the next key or previous key is used to cycle through the television programs corresponding to the list without having to access a menu listing the television programs in the list for navigating to a next television program in the sequence.

37. (Currently Amended): The multi-axis television program system database schema as recited in claim 36, wherein the one or more attributes include at least one of: type of program, program title, alphabetical order of title, year of release, channel, time, first air

date, episode order, episode name, genre, actors, writer, director, producer, rating, sound characteristics, video characteristics, language, subtitles, closeness of match to search criteria, ~~and or~~ popularity.

38. (Currently Amended): ~~A multi-axis television program system that comprises one~~
One or more computer readable media containing having instructions stored thereon
that are executable by a computer to perform actions comprising:

defining a television navigation axis according to attributes of television programs where one or more attributes define the navigational axis;

activating a navigation system during display of a currently displayed television program, wherein the navigation system automatically determines and displays a set of viewer-selectable attributes that are descriptive of different aspects of the currently displayed television program, wherein the navigation system overlays the set of viewer-selectable attributes on the currently displayed television program;

receiving a viewer selection of one or more attributes from among the displayed set of viewer-selectable attributes, wherein each attribute displayed is descriptive of a different aspect of the currently displayed television program;

providing a database of television program identifiers and attributes descriptive of the television programs corresponding to the television program identifiers in the database;

providing an interface ~~means~~ for selecting and launching a database query based on the one or more selected attributes corresponding to the currently displayed

television program, wherein the query returns a list of program identifiers of television programs having the one or more attributes that define the navigational axis; and

~~instructions to cycle through displaying sequentially~~ the television programs ~~[[on]] in~~ the list when a user uses a navigation controller for changing television channels ~~that, in turn, navigates to navigate~~ along the navigational axis without having to access a menu listing the television programs in the list for navigating to a next television program in the list.

39. (Canceled)

40. (Previously Presented): A method comprising:

displaying a currently displayed television program on a television;

activating a navigation system during display of the currently displayed television program, wherein the navigation system determines and displays a set of viewer-selectable attributes corresponding to the currently displayed television program, wherein the navigation system overlays the set of viewer-selectable attributes on the currently displayed television program, the set of attributes comprising attributes which are each descriptive of a different aspect of the currently displayed television program;

selecting an attribute from the set of view selectable attributes using one or more of three navigation keys comprising a previous key, a next key and a select key;

querying a database of television program metadata corresponding to television programs based on the selected attribute;

receiving results from the querying wherein the results comprise television program identifiers and wherein each of the television program identifiers identifies a television program having the selected attribute in common with the currently displayed television program;

generating a navigational axis for navigating the television programs that correspond to the television program identifiers wherein the navigational axis comprises an axis independent of a future time;

receiving an instruction to change a channel on the television by activation of a single channel change key;

responsive to receipt of the instruction, navigating the navigational axis from a first channel displaying the currently displayed television program to a second channel displaying a different television program located on the navigational axis; and

displaying the different television program on the television, wherein the different television program displayed is on a second channel that is not numerically adjacent to the first channel.

41. (Previously Presented): The method of claim 40 further comprising presenting on the television the navigational axis and at least some information for the television programs that correspond to the television program identifiers.

42. (Previously Presented): The method of claim 40 further comprising:

during display of the different television program, activating the navigation system again, wherein the navigation system automatically determines and displays a

different set of viewer-selectable attributes that are descriptive of the different television program, wherein the navigation system overlays the different set of viewer-selectable attributes on the display of the different television program, wherein one or more of the different attributes is selected to create a new list of television program identifiers corresponding to the selected one or more different attributes for creating an additional navigational axis, the additional navigational axis based on results from a different query based on the one or more different attributes.

43. (Previously Presented): The method of claim 42 wherein a two-dimensional control feature allows for navigation along the navigational axis, the two-dimensional control feature comprising a next key and a previous key each being a channel change key, wherein the next key or previous key is used to cycle through the television programs corresponding to the list without having to access a menu listing the television programs in the list for navigating to a next television program in the list.

44. (Currently Amended): One or more computer-readable media ~~comprising having~~ computer-executable instructions stored thereon to perform the method of claim 40.